Office of the Chief Medical Officer

TRICARE

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Title of Innovation:	Can Population Health Data Help the U.S. Army Prepare Troops for Combat?
Date Submitted:	10/29/2004
Date Project Initiated:	10/29/2004
Background:	Currently, there are no surveillance mechanisms in place to determine health effects of deployment across the spectrum of coded diagnoses. Forces deployed to operation Iraqi Freedom and Enduring Freedom reported more ill health upon return than prior to their departure (Simmons, et al., 2004). Porter (2004) suggests a definite lack of specificity and quantitative data applicable to soldier diseases such as post-war illness. The goal of this study was to examine the health effects of deployment from a utilization and disease prevalence perspective. This retrospective quantitative data review and analysis quantifies and describes the distribution of disease and injuries reported prior to the soldiers' departure in comparison to their return from deployment. This study should be a catalyst for more effective prevention and treatment programs which will reduce the burden of post conflict, war illness.
Methods:	All Active Duty Army direct outpatient visits to a Military Treatment Facility were pulled from M2 beginning with FY02 through FY04. The data was imported into MedBase, a robust multi-purpose clinical tool whose data engine was used for analysis. The cohort was identified as any soldier who utilized direct outpatient services and had a post deployment diagnosis code of v705.6 diagnosis used to identify post deployment related diagnosis. The data was then filtered to include only those visits 1 year prior and 1 year after the first date of a post deployment health related diagnosis coded in FY03. All V & E codes were excluded. The data was further segregated into two data sets. First data set included only unique diagnoses per soldier evaluating prevalence of disease and injury. The second data set included all diagnosis (no V & E codes) within the cohort to evaluate utilization rates. Each diagnosis was categorized by 3 code range levels in accordance with International Classification of Diseases, Ninth Revision (top level displayed for utilization report below). The number of pre deployment cases within the diagnosis range was compared to the total number of pre deployment visits as a percentage. The same was repeated for post deployment cases. The difference between pre and post deployment cases were quantified numerically and compared to the pre deployment state as a percentage. The utilization rate of pre and post deployment diagnosis was compared and expressed as rate difference percentage.
Results:	Results will be sent by fax to 703-681-7688. Data table file will not paste in properly.
Conclusions:	A total of 53,598 Active Duty Army members who redeployed during FY03 were evaluated. There were a total of 203,223 diagnoses coded (V&E codes excluded) up to 1 year prior to the 1st V705.6 and 361,122 diagnoses coded up to 1 year post deployment which represents a 78% increase of visits in this cohort. Hospitals may use this type of information for resource planning. Knowing there will be a 95% increase in mental health service utilization may require a change in staffing or shift to network care. The disease prevalence report (not shown here) will show changes in disease/injury state post deployment and suggest the effectiveness of current pre-deployment screening process, deployment medical threat countermeasure and post deployment health effects. The results of this study will provide significant return to the U.S. Army long after the mobilization of the program costs

are incurred. Therefore, it is recommended that such analysis expand to other services to include the Air Force, Navy, Marines, Reserve and National Guard components. It is also recommended that domain experts perform further evaluation on various post deployment disease and injury subsets. More importantly, recommendations by domain experts are needed to improve countermeasures to medical threats. The results of this study will have a far reaching impact on Military Medicine and clinicians throughout the entire DoD healthcare system.

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